

SOILS

CAREER DEVELOPMENT EVENT

Purpose

The purpose of this CDE is to encourage high school agriculture students to learn about the soil resource.

Objectives

Students competing in the State Soils CDE would be expected to develop skills and abilities in the following areas.

- I. To identify and evaluate characteristics of a soil profile.
- II. To evaluate surface features which influence potential use of land.
- III. To estimate the movement of air and water through the soil.
- IV. To estimate the productive capacity of soil.
- V. To recommend practices needed to conserve soil resources.
- VI. To analyze the suitability of land for agricultural and non-agricultural uses.

SOILS
CAREER DEVELOPMENT EVENT

Crosswalk with
Show-Me Standards

Objectives – Students participating in the Career Development Event should be able to:		Show-Me Standards	
		Knowledge Standards (Content Areas)	Performance Standards (Goals)
1.	To identify and evaluate characteristics of a soil profile.	CA.3	1.3, 1.4, 1.6, 1.7
2.	To evaluate surface features which influence potential use of land.	MA.1, MA.2, MA.3	3.1, 3.2
3.	To estimate the movement of air and water through the soil.	SC.2, SC.4, SC.5, SC.8	4.4, 4.8
4.	To estimate the productive capacity of soil.	SS.5	
5.	To recommend practices needed to conserve soil resources.		
6.	To analyze the suitability of land for agricultural and non-agricultural uses.		

CORRESPONDING SECONDARY AGRICULTURE CURRICULUM

Course and/or Curriculum: Agricultural Science II **Unit(s):** Soil Science

Event Format and Scoring

1. Four sites will be selected by the superintendent and judged in advance of the event. The boundaries will be marked so that each site will have some uniformity of soil profile and surface features. The most current Interpretation Help Guide will be provided to each contestant.
2. Judging pits will be dug to a depth of more than three feet unless limited by a very rocky layer. Buckets of soil from each horizon will be provided at each judging site.
3. Judges will score each site before the CDE begins. Scoring of all items will be based on information in the Soil Science Curriculum from IML.
4. Yardsticks and a water supply will be provided at each judging site.
5. The following information regarding each site will be available to the contestants:
 - a. Number of the site.
 - b. Boundary of the site marked by white corner flags (100' x 100').
 - c. The available water capacity of the horizons, which are not judged.
 - d. The distance between slope stakes and difference in elevation will be provided in accordance with page 4 of Appendix I - How to Organize and Manage a Soil-Judging Contest.
6. Students will be rotated through the soil site at five-minute intervals with no fewer than three students in the pit at one time. A maximum of 60 minutes and a minimum 30 minutes will be spent at each site. Groups may move at the superintendent's discretion after 30 minutes provided all scorecards have been submitted to the group leader.
7. Tabulators will compare the contestants' scorecard with the official scorecard and indicate the contestants' score.
8. Tie scores between teams will be broken by using the highest individual total score to identify the higher-ranking team. Ties between individuals will be broken by using the highest individual score.
9. Each site will be discussed by the judges at the completion of the event. Contestants, teachers, and others who may be interested are encouraged to attend.
10. Contestants should wear clothing, boots, etc., appropriate for weather conditions.
11. If an answer splits a class boundary, mark the next highest answer as the correct answer.

Event Rules

1. These CDE rules take precedence over information, rules, etc. indicated in Appendix I and II of the Soil Science curriculum available from IML if a conflict exists.
2. Spatula or digging devices will be provided.
3. Neither contestants nor teachers are allowed to visit the event sites prior to the event.

4. Contestants are allowed to bring only the following equipment to the CDE:
 - a. Clean Clipboard
 - b. Two No. 2 Pencils
 - c. Calculators may be used. Calculators must be **nonprogrammable** and **non-graphing** models and limited to the following function keys or their equivalent: Plus (+); Minus (-); Multiplication (x); Division (/); Equals (=); Memory Clear (MRC); Memory Minus (M-); Memory Plus(M+); Plus &/or Minus (+/-); Percentage (%); Square Root or Square Keys. Additional Function Keys may be accepted if approved in advance by the CDE Superintendent. The main criteria is that the calculator be **nonprogrammable** & **non-graphing** and that equations &/or text may not be stored within the calculators memory.
5. Contestants shall not communicate with any other contestants, in any way, while the CDE is in progress.
6. No one except contestants, judges, superintendents, and CDE assistants will be allowed to observe the event site while judging is in progress.
7. Violation of any of the above rules may result in the elimination of individuals or teams involved from the CDE.

References

Soil Science Curriculum - IML, 1400 Rock Quarry Rd. Q156, University of Missouri, Columbia, MO 65211. Phone: 1-800-669-2465.

Local county soil survey report, if available (free). Contains detailed soil maps and descriptions, soil chemical and physical characteristics and interpretations for agricultural and urban use. County soil surveys can also be obtained through the local office of the Soil Conservation Service.

For further information on soil teaching aids and references, or soil judging contests, contact the superintendent.